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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,448	01/20/2004	Paul L. Mitchell	38423.0022	3049

7590

01/06/2006

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EXAMINER

WALBERG, TERESA J

ART UNIT

PAPER NUMBER

3753

DATE MAILED: 01/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/761,448

Applicant(s)

MITCHELL ET AL.

Examiner

Teresa J. Walberg

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-31 is/are pending in the application.
- 4a) Of the above claim(s) 31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/20/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 16, 19, 20, 21, and 27 are rejected under 35 U.S.C. 102(a) as being anticipated by Sato (JP 2003-161589) (cited by applicant).

Sato discloses a heat exchanger including at least one plate fin (2) having first and second sides and at least one opening, at least one fin collar disposed on the plate fin around the at least one opening, the fin collar having an upstanding wall and a plurality of slits, and at least one tube (1) disposed through the opening and attached to the fin collar by brazing (see English language abstract), the tube being oval, the slits being equidistantly spaced, and the slits being angled.

With respect to claim 27, this claim is considered to contain a product by process limitation. Since the brazed connection would be the same whether or not it was produced in a “controlled atmosphere brazing oven”, the claim is deemed to be met.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 17, 18, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato (JP 2003-161589) in view of Frisch (2,737,370).

Sato, as discussed above, discloses the claimed structure with the exception of the tube being round or circular and the slits having a rectangular shape.

Frisch teaches using round or circular tubes in a heat exchanger and using rectangular shaped slits in the fin collars.

It would have been obvious in view of Frisch to use round or circular tubes and to make the tube slits rectangular in the heat exchanger of Sato, the motivation being to provide more even contact between the tubes and the fin collars.

5. Claims 23, 25, and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato (JP 2003-161589) in view of Plumeri et al (2,656,805).

Sato, as discussed above, discloses the claimed structure with the exception of the fin collar and the tube being an aluminum alloy or copper.

Plumeri et al teach using aluminum or copper tubes and fins in a heat exchanger. Note that any aluminum used in an oxygen atmosphere would necessarily be in the form of an aluminum alloy since aluminum oxidizes on contact with the air.

It would have been obvious in view of Plumeri et al to make the tubes and/or fins of copper or aluminum in the heat exchanger of Sato, the motivation being to provide a high level of heat transfer.

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato (JP 2003-161589) in view of Plumeri et al (2,656,805) as applied to claims 23, 25, and 28-30 above and further in view of Blystone (4,449,581).

Sato in view of Plumeri et al, as discussed above, discloses the claimed structure with the exception of the heat exchanger including a cladding layer.

Blystone teaches using a cladding layer in a heat exchanger.

It would have been obvious in view of Blystone to use a cladding layer in the heat exchanger of Sato in view of Plumeri et al, the motivation being to more easily fasten the parts of the heat exchanger together.

7. Claim 31 is listed in the most recent amendment as being withdrawn rather than cancelled, but the text of claim 31 was not included with the other claims. Clarification of the status of claim 31 is requested.

8. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) on 20 July 2005 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 9:00 - 5:30.

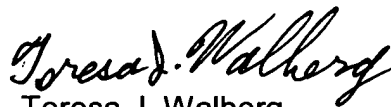
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Blau can be reached on 571-272-4406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, reading "Teresa J. Walberg". The signature is written in a cursive style with a large, stylized "T" and "W".

Teresa J. Walberg
Primary Examiner
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tjw